

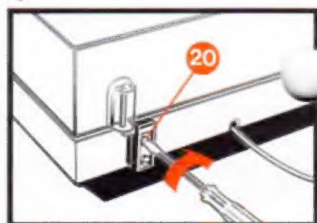
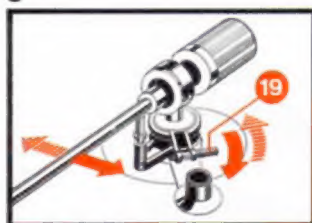
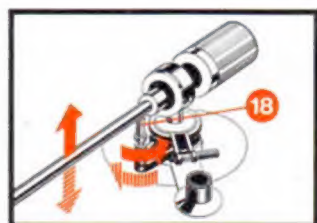
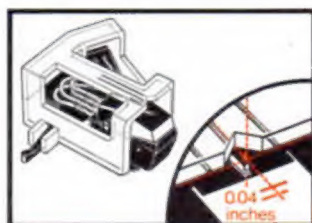
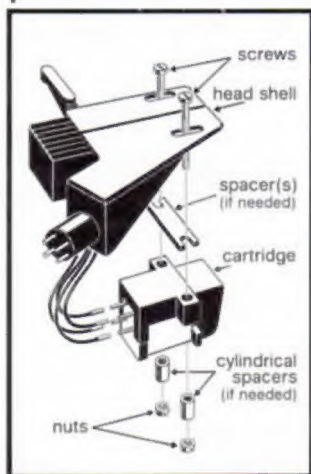
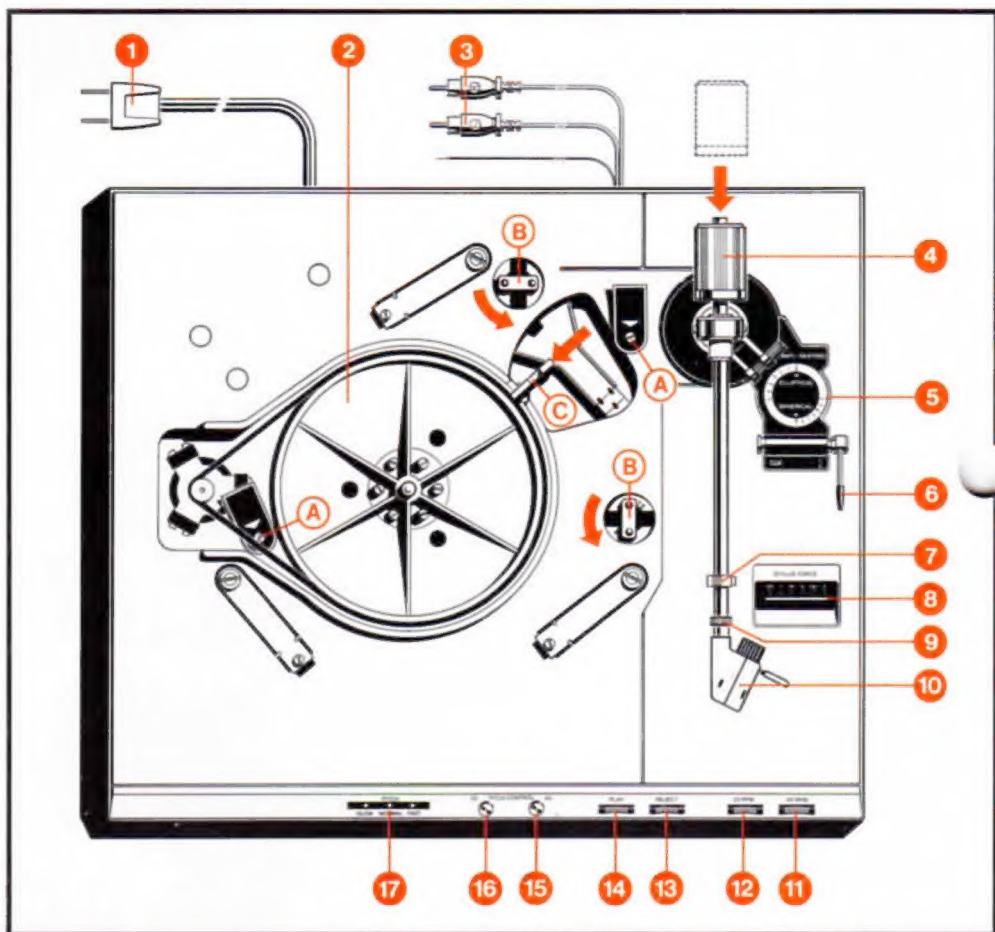


**PHILIPS**

AF 729



**hi**  
HIGH FIDELITY INTERNATIONAL  
**fi**



## WARNING

To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or excessive moisture.

The model and serial number of the Philips High Fidelity Laboratories record player will be found on the bottom of the instrument. Please record this model and serial number in the space provided below.

Model Number .....

Serial number .....

### This two speed HiFi record player ...

... is equipped with 'DIRECT CONTROL', a completely new type of drive system combining every advantage of the belt and the direct drive systems and ensuring an absolutely constant turntable speed with negligible wow and flutter.

In this system a d.c. motor drives the turntable via a belt coupling, and a tachometer in the driving disc continuously monitors the turntable speed, which it signals to an electronic circuit. This compares the signal from the tachometer with an extremely stable reference signal.

Should any difference be found, a control signal is immediately triggered, the action of which is to so adjust the power supply to the motor that the correct turntable speed is obtained. Line voltage or temperature fluctuations and varying frictional forces arising from, say, the use of a cleaning arm thus exercise no effect on the turntable speed.

Other features of this record player in addition to its unique drive system are the following:

- Extremely low rumble, thanks to the independent suspension of the turntable and pick-up arm.
- Automatic and manual operation. Use whichever you prefer in playing your records. In automatic operation a sensor in the turntable determines the landing point of the pick-up arm.

Greater ease of operation, the main controls are located at the front of the apparatus.

- Precise adjustment of the turntable speed possible with the aid of fine-adjustment controls and an electronic speed indicator.
- Stylus force and anti-skate adjustable.
- Hydraulically damped pick-up arm lift.

## Controls etc.

Figure 1

- ① line plug
- ② driving disc
- ③ pick-up leads
- ④ counterweight
- ⑤ ring for adjustment of anti-skate
- ⑥ pick-up arm lift lever
- ⑦ pick-up arm lock
- ⑧ stylus-force indicator
- ⑨ coupler for attachment of the head shell
- ⑩ pick-up head shell
- ⑪ 45-r.p.m. button
- ⑫ 33-r.p.m. button
- ⑬ reject button
- ⑭ start button
- ⑮ fine-speed control for 45 r.p.m.
- ⑯ fine-speed control for 33 r.p.m.
- ⑰ speed indicator
- Ⓐ transportation screw
- Ⓑ transportation locking swivels
- Ⓒ transportation clamp

Figure 4

- ⑮ bolt for adjustment of lift height

Figure 5

- ⑮ screw for adjustment of pick-up arm landing point

Figure 6

- ⑮ screw for adjustment of cover hinges

## Installation

### Unpacking

The various parts of the record player are packed separately to prevent damage during transit. Remove all parts from the packing. These are: record player on base, dust cover, turntable platter, counterweight, 45-r.p.m. adapter and an alignment jig with hardware for mounting your cartridge.

### Transport safeguards

The sub-chassis (the independently suspended unit consisting of the turntable and the pick-up arm) is locked in position by the screws Ⓐ and the swivels Ⓑ to protect it against shocks during transportation. The bracket of the diameter sensing system is locked with the clamp Ⓒ. Also some parts of the apparatus may have cardboard and/or plastic protective material.

Before attaching the turntable platter, release the sub-chassis by removing the screws Ⓐ and turning the locking swivels Ⓑ (anti-clockwise) free of the



top plate. To release the diameter sensing system, remove the clamp ⑥ by pressing in the direction indicated. Any protective material must also be removed.

*Whenever the record player is to be transported, first lock the sub-chassis in position by turning the swivels ⑧ clockwise to their limit.*

### Assembly

a. Mount the turntable platter over the disc ②.  
b. Screw the counterweight ④, as shown in Figure 1, on the end of the pick-up arm as far as it will go.

c. All cartridges with standard mounting dimensions ( $\frac{1}{2}$ " ) can be mounted on the head shell ⑩. A mounting kit is supplied with the record player. This kit consists of mounting hardware and an alignment jig; the function of the jig is to determine the position of the cartridge on the head shell.

The head shell is attached to the pick-up arm by the coupler ⑨. In order to mount the cartridge, loosen the coupler by turning it clockwise and withdraw the head shell carefully from the arm.

First connect the colored wires on the head shell to the pins of the cartridge as follows:

L (white) to L (left channel)

R (red) to R (right channel)

LG (blue) to LG (left channel ground)

RG (green) to RG (right channel ground)

This done, attach the cartridge (see Figure 2) loosely to the head shell, using the appropriate screws and nuts. If necessary, put cylindrical spacers on the screws.

Lay the head shell in the jig (see Figure 3), turn it over and first of all check that the clearance between the tip of the stylus and the jig is about .04 inches (approx.  $\frac{1}{32}$ " ). If the clearance is greater than this, place one or more spacers under the cartridge (see Figure 2). Now adjust the position of the cartridge carefully until the stylus is exactly in the center of the notch in the jig and the long sides of the cartridge are parallel with the lines on the jig. Finish by tightening the screws uniformly but not excessively.

Finally, secure the head shell to the pick-up arm by pressing it gently into the arm and turning the coupler ⑨ anti-clockwise. The head shell is automatically brought into correct position by its guide pins and notches.

d. With the pins of the dust cover hinges upright, position the dust cover on the apparatus.

### Connection to AC and amplifier

Insert the plug from the AC line cord ① into a standard AC receptacle supplying 110/120 volts, 60 hertz power.

Connect the pick-up leads ③ to the input socket of your amplifier or receiver - lead marked 'L' to the left channel input and the lead marked 'R' to the right channel input. Connect the ground lead from the record player to the ground terminal on the amplifier or receiver.

### Adjustment of the stylus force and the anti-skate

The stylus force is the vertical force which is exerted by the stylus on the record. Each type of cartridge has its own optimum stylus force, the value in each case being shown in the technical data supplied with the cartridge. The stylus force should be precisely adjusted as recommended, since a force which is too high or too low can impair both the sound quality and your records alike. The stylus force is expressed in grams. It is adjusted by means of the counterweight ④ and can be read off the stylus-force indicator ⑧.

Skating force is the force which, generated by the friction of the stylus in contact with the wall of the groove, tends to press the stylus more strongly against the inner surface of the groove and thus gives rise to distortion of the sound. The skating force depends on the stylus force and the shape of the stylus. This record player incorporates a system for anti-skate, the amount of which is adjusted by means of the adjusting ring ⑤. This has two scales. The scale marked 'SPHERICAL' is for pick-up cartridges with a spherical stylus. The scale marked 'ELLIPTICAL' is for cartridges with either a bi-radial stylus or a CD4 stylus. The anti-skate must be set to the same value as the stylus force.

Adjust the stylus force and the anti-skate as follows:

- Check that the adjusting ring ⑤ is at '0'.
- Place the lift lever ⑥ down ('V').
- Release the pick-up arm by pressing the lock ⑦ to the right.
- With one hand, support the pick-up arm above the arm rest. With the other hand, turn the counterweight ④ clockwise until the green line of the stylus-force indicator ⑧ denotes the desired stylus force when the pick-up arm is laid on the rest.
- Turn the adjusting ring ⑤ until the desired value on the scale concerned is opposite the corresponding small triangle.

### Switching on and off

This record player has no separate power switch. It is switched on by pressing the start button ⑭. The speed indicator ⑰ lights up when this is done. The apparatus is switched off automatically at the end of the record. It is also switched off when the



reject button ⑬ is pressed. The speed indicator then goes out.

*The record player not having a power switch, the line plug should be withdrawn from the room socket when the apparatus is not in regular use.*

### Checking and adjusting the turntable speed

When the turntable reaches the correct speed, the central LED (Light-Emitting Diode) of the speed indicator ⑰ lights brightly.

If the left-hand LED lights either together with the central or alone, the speed is too low. If the right-hand LED lights either together with the central or alone, the speed is too high. To correct for inaccurate speed, turn the fine-speed control ⑬ (for 45 r.p.m.) or ⑭ (for 33 r.p.m.) clockwise if the speed is too low, or anti-clockwise if it is too high, until the central LED lights brightly.

The possibility of adjusting the speed may also be useful if you wish to play a musical instrument together with a record. You may need to adjust the pitch of the music on the record to that of your own instrument. By altering the turntable speed with the appropriate fine-speed control, you can alter the pitch by up to a semitone.

### Operation

- Swing up the stylus guard.
- Free the pick-up arm by pressing the lock ⑦ to the right.
- Select the speed desired by pressing either the 45 r.p.m. button ⑪ or the 33 r.p.m. button ⑫.

#### *Use as an automatic player (for records of 7" and 12" diameter)*

- Ensure that the cue lever ⑥ is down ('V').
- Start the turntable by pressing the start button ⑭. The pick-up arm is raised from its rest and descends into the run-in groove of the record.

#### *Use as a non-automatic player (for all 33 r.p.m. and 45 r.p.m. records)*

- Place the cue lever ⑥ up ('∇').
- Start the turntable by lifting the pick-up arm from its rest and bringing it into position above the desired part of the record.
- Lower the lift lever ⑧ ('V'); the pick-up arm now descends on to the record.

At the end of the record the pick-up arm returns to its rest. When you have finished playing records, lock the pick-up arm in place by pressing the lock ⑦ to the left, and swing down the stylus guard.

### Interruption of play

Place the lift lever ⑧ up ('∇'). The pick-up arm rises from the record and the turntable continues to rotate. To resume playing, place the lift lever down ('V') again.

### Stopping during play

Press the reject button ⑬. The pick-up arm returns to its rest.

Alternatively, you can place the lift lever ⑧ up ('∇') and return the arm to its rest.

### Maintenance

#### *General*

The mechanism of the record player having self-lubricating bearings, it requires no maintenance. Although a diamond stylus is very slow to wear, it is advisable to have it checked at regular intervals, e.g. twice a year. Dust and hairs can be removed from the stylus with a small, soft-haired brush, which should be stroked over the stylus in a direction moving from rear to front of the cartridge. More obstinate deposits can be removed if the brush is moistened with a little cleaning fluid.

#### *Adjusting the lift height*

If with the apparatus on automatic operation the pick-up arm does not rise sufficiently from the arm rest, the lift height - the height to which the arm is raised - can be increased.

- Swing up the stylus guard.
- Place the lift lever ⑧ up ('∇').
- Place the pick-up arm over a 12" record.
- Turn the adjusting bolt ⑱ (see Figure 4) anti-clockwise until the required lift height is obtained. Do not turn the bolt too far, however, for with the stylus on the record, some clearance must remain between the top of the bolt and the lip on the pick-up arm.

The lift height can be reduced, if desired, by turning the bolt clockwise. However, the bolt must not be turned too far, since with the lift lever up, the stylus must be at least  $7\frac{1}{32}$ " above the record if the pick-up arm is to return unhampered to the rest.

#### *Adjusting the landing point*

With the apparatus on automatic operation, the stylus should land in the run-in groove of the record. If it does not, adjust the landing point as required with the adjusting screw ⑲ (see Figure 5).

If the screw is turned clockwise, the stylus lands nearer the edge of the record. If the screw is turned anti-clockwise, the stylus lands farther from the edge of the record. The pick-up arm must be on its rest when the adjusting screw is turned.

### *Adjusting the cover hinges*

Since the cover is fitted with friction hinges, it can remain open in practically any position. If the effect of the friction decreases, adjust the hinges by tightening the screws ② (see Figure 6) a little.

*The hinges must not be lubricated!*

### **Technical data**

*(subject to alteration)*

Turntable speeds	33 $\frac{1}{3}$ and 45 r.p.m.
Turntable speed adjustment range	$\pm 3\%$ (equal to one semi-tone)
Wow and flutter	
DIN	less than 0.08%
WRMS	less than 0.05%
Rumble	
DIN A	lower than -43 dB
DIN B	lower than -65 dB
Tracking error	smaller than 0°9' /cm
Stylus force	adjustable from 1 to 3 grams
Arm friction	
horizontal	less than 15 mg
vertical	less than 10 mg
Line voltage and frequency	120 V/60 Hz
Power consumption	max. 3 W
Dimensions	
with cover closed	17 $\frac{23}{32}$ " $\times$ 5 $\frac{3}{8}$ " $\times$ 14 $\frac{3}{8}$ "
with cover open	17 $\frac{23}{32}$ " $\times$ 15 $\frac{1}{32}$ " $\times$ 17 $\frac{5}{16}$ "
Weight	approx. 11.4 lbs